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ABSTRACT

Nucleic acid sequences for enhancing expression of a useful gene, which can increase the production of the gene product by enhancing gene expression, comprising a 5'-untranslated region of a viral gene or a fragment or a variant thereof, vectors comprising the nucleic acid sequence, host cells transformed or transfected with the vector, and methods for enhancing expression of a useful gene with the vector are provided. In addition, the sequences of the present invention can be utilized for screening an agent that interacts with IRES elements, and of an IRES-dependent translation initiator, as well as for treating diseases resulting from reduction of cap-dependent mRNA translation or reduction of IRES activity, and for determining severity of hepatitis C.